Lesson Title: May the FORCE be with you.

Related Lessons: Balanced/Unbalanced forces and Gravity

Grade Level: Middle grades

Unit: 05- Force and Motion

GOALS

Content Standards:

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|  |
|  | »  [SC.6.P.13.1: Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.](javascript:__doPostBack('ctl00$ContentPlaceHolder1$FlStandardSearch$StandUc1$BenchmarkGrid$ctl00$ctl05$HyperLink2','')) |

ISTE NETS-S

* 1. Creativity and innovation
* 2. Communication and collaboration
* 3. Research and information fluency
* 4. Critical thinking, problem solving, and decision making
* 5. Digital citizenship
* 6. Technology operations and concepts

Instructional Objectives:

The purpose of this lesson is to engage students more deeply in their understanding of forces.

ACTION

**Before-Class Preparation:** Create a handout or guiding chart for students to complete as they go through the entire assignment.

**During Class:**

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| Time | Instructional Activities | Materials & Resources |
| 20-25 minutes | **Teacher will introduce forces to students with a PowerPoint presentation. Students will take notes as important information is given.** | **Classroom projector, PowerPoint, teacher created presentation** |
| 20-25  minutes | **Teacher will demonstrate how to get to Webquest for motion.**  [**http://glencoe.mcgraw-hill.com/sites/007877846x/student\_view0/unit4/webquest.html**](http://glencoe.mcgraw-hill.com/sites/007877846x/student_view0/unit4/webquest.html)  **Students will be given handout which will organize the steps of the process.** | **Student computers, teacher computer, handout** |
| 45 minutes | **Students will research roller coasters and understand motion** | **Computers, handouts** |
| 45 minutes | **Students will spend period creating a virtual rollercoaster and plan on how to create a model. With their groups students will create a list of materials that can be used for their model.** | **Computers, handout** |
| 45 minutes | **Groups will create and test their models.** | **Materials from group created lists** |
| 45 minutes | **Groups will present their findings to the class.** | **Model rollercoaster’s** |
|  |  |  |

**MONITER**

Ongoing Assessment: Monitor student progress during WebQuest being sure each student is participating. Students will be required to complete each step of the handout to show learning throughout the process. Students will be grouped and will use grouping cards to decide on jobs.

Accommodations and Extensions: Students with special needs will be working in groups to assist with any needs. These students will also be placed in locations that will be accessible for better viewing of presentation.

Backup Plan: Each of the research areas can be done as a class and students can fill in handout as a group upon completion of the sections.

EVALUATION

**Lesson Reflections and Notes:** Students are evaluated through group participation in class presentations, note-taking, and completion of handout.

Lesson Title: Where in the world is the fastest rollercoaster?

Related Lessons: May the FORCE be with you.

Grade Level: Middle grades

Unit: 05- Force and Motion

GOALS

Content Standards:

|  |
| --- |
|  |
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Instructional Objectives:

The purpose of this lesson is to engage students more deeply in their understanding of forces.

ACTION

**Before-Class Preparation:** Students will do a scavenger hunt for rollercoasters. Teacher should work with Geography teacher. Letting them know what countries they will be focusing on.

**During Class:**

|  |  |  |
| --- | --- | --- |
| Time | Instructional Activities | Materials & Resources |
| 20-25 minutes | **Teacher will explain how to create a graphic organizer for roller coasters using Inspiration** | **Classroom projector, Inspiration teacher created presentation** |
| 20-25  minutes | **Students will work with partner to create a word web for roller coaster.** | **Student computers, teacher computer** |
| 45 minutes | **Student will focus on area of word web for study. For example What is the top speed of a roller coaster? Partners will research question.** | **Computers,** |
| 45 minutes | **When students find all information on roller coasters word web students will Skype with students from social studies class to find out about the country/area the roller coaster was in.** | **Computers, Skype program, web camera** |
| 45 minutes | **Students will share information that they found out about the roller coaster through Skype to students in the Geography class** | **Computers, Skype program, web camera** |
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**MONITER**

Ongoing Assessment: Teacher will rotate through the class to make sure students are completing research. Students will participate in communication with other class.

Accommodations and Extensions: Students with special needs will be working with a partner to assist with any needs. These students will also be placed in locations that will be accessible for better viewing of presentation.

Backup Plan: Students can participate on a student to student access if possible or class to class if not enough equipment is available.

EVALUATION

**Lesson Reflections and Notes:** Students are evaluated through participation in Skype presentations, and graphic organizer.

Lesson Title: “Roller”mentary

Related Lessons: May the FORCE be with you.

Grade Level: Middle grades

Unit: 05- Force and Motion

GOALS

Content Standards:

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|  |
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Instructional Objectives:

The purpose of this lesson is to engage students more deeply in their understanding of forces.

ACTION

**Before-Class Preparation: Schedule to have mobile lab for at least a week**. **Print out a blank PowerPoint handout with eight slides.**

**During Class:**

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| Time | Instructional Activities | Materials & Resources |
| 30-40 minutes | **Hand out the blank PowerPoint handouts and explain that students will work with their partner to create a story based on information that they have been learning. Explain that they will use information that they have learned about rollercoaster over the past two lessons to create a Photo Story summary. The box will have drawing of what they want on the slide and the lines will have the narration for the slide. Teacher will have students access Photo Story 3 on their computers. Explain the process of creating a digital photo story.** | **Classroom projector, Handout, student computers.** |
| 20-25  minutes | **Teacher will explain to students about Creative Commons and take them to the site** [**http://search.creativecommons.org/**](http://search.creativecommons.org/)  **Since this site allows you to search for things that can be used for commercial purposes, modified, adapted, or built upon it is a good source for images. Explain that the sources must also be listed.** | **Student computers, teacher computer** |
| 60 minutes | **Students will work with partners to create the Photo Story.** | **Computers,** |
| 60 minutes | **Students will present Photo Story to the class. As students present the story other students will do a peer evaluation.** | **Computers, projector** |
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**MONITER**

Ongoing Assessment: Students will evaluate other group information presentations.

Accommodations and Extensions: Students with special needs will be working with a partner to assist with any needs. These students will also be placed in locations that will be accessible for better viewing of presentation.

Backup Plan: Students can participate on a student to student access if possible or class to class if not enough equipment is available.

EVALUATION

**Lesson Reflections and Notes:**

|  |  |  |  |  |
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| Presenters: | Ok | Good | Great | What did you find interesting? |
| Title Page |  |  |  |  |
| Images |  |  |  |  |
| Information |  |  |  |  |

Evaluated by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Digital Storytelling : Rollercoasters** | | | | |  |
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| Teacher Name: **Ms. Kozlowski** | |  |  |  |  |
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|  |  |  |  |  |  |
| Student Name:     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |  |  |
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| CATEGORY | 4 | 3 | 2 | 1 |  |
| Point of View - Purpose | Establishes a purpose early on and maintains a clear focus throughout. | Establishes a purpose early on and maintains focus for most of the presentation. | There are a few lapses in focus, but the purpose is fairly clear. | It is difficult to figure out the purpose of the presentation. |  |
| Images | Images create a distinct atmosphere or tone that matches different parts of the story. The images may communicate symbolism and/or metaphors. | Images create an atmosphere or tone that matches some parts of the story. The images may communicate symbolism and/or metaphors. | An attempt was made to use images to create an atmosphere/tone but it needed more work. Image choice is logical. | Little or no attempt to use images to create an appropriate atmosphere/tone. |  |
| Voice - Pacing | The pace (rhythm and voice punctuation) fits the story line and helps the audience really "get into" the story. | Occasionally speaks too fast or too slowly for the story line. The pacing (rhythm and voice punctuation) is relatively engaging for the audience. | Tries to use pacing (rhythm and voice punctuation), but it is often noticeable that the pacing does not fit the story line. Audience is not consistently engaged. | No attempt to match the pace of the storytelling to the story line or the audience. |  |
| Soundtrack - Emotion | Music stirs a rich emotional response that matches the story line well. | Music stirs a rich emotional response that somewhat matches the story line. | Music is ok, and not distracting, but it does not add much to the story. | Music is distracting, inappropriate, OR was not used. |  |
|  |  |  |  |  |  |